

**State of California
Office of Administrative Law**

In re:
Air Resources Board

Regulatory Action:

Title 13, California Code of Regulations

Amend sections: 2775, 2775.1, 2775.2

**NOTICE OF APPROVAL OF REGULATORY
ACTION**

Government Code Section 11349.3

OAL Matter Number: 2017-0530-04

OAL Matter Type: Regular (S)

This regulatory action by Air Resources Board amends regulations for large spark-ignition (LSI) engine fleets to extend recordkeeping requirements and establish reporting and labelling requirements. The amendments provide key compliance information about LSI equipment to increase enforcement effectiveness and compliance rates, and to inform future policy decisions.

OAL approves this regulatory action pursuant to section 11349.3 of the Government Code. This regulatory action becomes effective on 6/20/2017.

Date: June 20, 2017



**Nicole C. Carrillo
Attorney**

**For: Debra M. Cornez
Director**

**Original: Richard W. Corey
Copy: Bradley Bechtold**

NOTICE PUBLICATION/REGULATIONS SUBMISSION

REGULAR

(See instructions on reverse)

For use by Secretary of State only

STD. 400 (REV. 01-2013)

OAL FILE NUMBERS	NOTICE FILE NUMBER Z-2016-0517-07	REGULATORY ACTION NUMBER 2017-0530-04S	EMERGENCY NUMBER
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For use by Office of Administrative Law (OAL) only

RECEIVED DATE PUBLICATION DATE

MAY 17 '16**JUN 03 '16**

Office of Administrative Law

2017 MAY 30 P 4:00OFFICE OF
ADMINISTRATIVE LAW

NOTICE

REGULATIONS

AGENCY WITH RULEMAKING AUTHORITY
Air Resources Board

AGENCY FILE NUMBER (if any)

ENDORSED - FILED
in the office of the Secretary of State
of the State of California**JUN 20 2017****1:36 PM****A. PUBLICATION OF NOTICE (Complete for publication in Notice Register)**

1. SUBJECT OF NOTICE Off-Road Large Spark-Ignition Engine Fleet 2016		TITLE(S) 13	FIRST SECTION AFFECTED 2775	2. REQUESTED PUBLICATION DATE June 3, 2016
3. NOTICE TYPE <input checked="" type="checkbox"/> Notice re Proposed Regulatory Action <input type="checkbox"/> Other		4. AGENCY CONTACT PERSON Nicole Hutchinson	TELEPHONE NUMBER (916) 322-6533	FAX NUMBER (Optional) (916) 322-3928
OAL USE ONLY	ACTION ON PROPOSED NOTICE <input type="checkbox"/> Approved as Submitted <input type="checkbox"/> Approved as Modified <input type="checkbox"/> Disapproved/Withdrawn		NOTICE REGISTER NUMBER 2016, 23-2	PUBLICATION DATE 6/3/2016

B. SUBMISSION OF REGULATIONS (Complete when submitting regulations)

1a. SUBJECT OF REGULATION(S) Off-Road Large Spark-Ignition Engine Fleet Regulation	1b. ALL PREVIOUS RELATED OAL REGULATORY ACTION NUMBER(S)
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2. SPECIFY CALIFORNIA CODE OF REGULATIONS TITLE(S) AND SECTION(S) (Including title 26, if toxics related)				
<table border="1"> <tr> <td rowspan="3">SECTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.)</td> <td>ADOPT</td> </tr> <tr> <td>AMEND 2775, 2775.1, 2775.2</td> </tr> <tr> <td>REPEAL</td> </tr> </table>	SECTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.)	ADOPT	AMEND 2775, 2775.1, 2775.2	REPEAL
SECTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.)		ADOPT		
		AMEND 2775, 2775.1, 2775.2		
	REPEAL			
TITLE(S) 13				

3. TYPE OF FILING			
<input checked="" type="checkbox"/> Regular Rulemaking (Gov. Code §11346)	<input type="checkbox"/> Certificate of Compliance: The agency officer named below certifies that this agency complied with the provisions of Gov. Code §§11346.2-11347.3 either before the emergency regulation was adopted or within the time period required by statute.	<input type="checkbox"/> Emergency Readopt (Gov. Code, §11346.1(h))	<input type="checkbox"/> Changes Without Regulatory Effect (Cal. Code Regs., title 1, §100)
<input type="checkbox"/> Resubmittal of disapproved or withdrawn nonemergency filing (Gov. Code §§11349.3, 11349.4)	<input type="checkbox"/> Resubmittal of disapproved or withdrawn emergency filing (Gov. Code, §11346.1)	<input type="checkbox"/> File & Print	<input type="checkbox"/> Print Only
<input type="checkbox"/> Emergency (Gov. Code, §11346.1(b))	<input type="checkbox"/> Other (Specify) _____		

4. ALL BEGINNING AND ENDING DATES OF AVAILABILITY OF MODIFIED REGULATIONS AND/OR MATERIAL ADDED TO THE RULEMAKING FILE (Cal. Code Regs. title 1, §44 and Gov. Code §11347.1)
N/A

5. EFFECTIVE DATE OF CHANGES (Gov. Code, §§ 11343.4, 11346.1(d); Cal. Code Regs., title 1, §100)

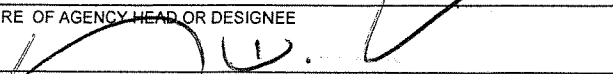
<input type="checkbox"/> Effective January 1, April 1, July 1, or October 1 (Gov. Code §11343.4(a))	<input checked="" type="checkbox"/> Effective on filing with Secretary of State	<input type="checkbox"/> §100 Changes Without Regulatory Effect	<input type="checkbox"/> Effective other (Specify) _____
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6. CHECK IF THESE REGULATIONS REQUIRE NOTICE TO, OR REVIEW, CONSULTATION, APPROVAL OR CONCURRENCE BY, ANOTHER AGENCY OR ENTITY

<input checked="" type="checkbox"/> Department of Finance (Form STD. 399) (SAM §6660) per agency request NC 6/19/17	<input type="checkbox"/> Fair Political Practices Commission	<input type="checkbox"/> State Fire Marshal
<input type="checkbox"/> Other (Specify) _____		

7. CONTACT PERSON Bradley Bechtold - Regulations Coordinator	TELEPHONE NUMBER (916) 322-6533	FAX NUMBER (Optional) (916) 322-3928	E-MAIL ADDRESS (Optional) bradley.bechtold@arb.ca.gov
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8. I certify that the attached copy of the regulation(s) is a true and correct copy of the regulation(s) identified on this form, that the information specified on this form is true and correct, and that I am the head of the agency taking this action, or a designee of the head of the agency, and am authorized to make this certification.

SIGNATURE OF AGENCY HEAD OR DESIGNEE 	DATE 5/5/2017
TYPED NAME AND TITLE OF SIGNATORY Executive Officer - Richard Corey	

For use by Office of Administrative Law (OAL) only

ENDORSED APPROVED**JUN 20 2017**

Office of Administrative Law

FINAL REGULATION ORDER

LARGE SPARK-IGNITION (LSI) ENGINE FLEET REQUIREMENTS REGULATION

[Note: Sections 2775, 2775.1, and 2775.2 are amended as indicated. The amendments to existing text are shown in underline to indicate addition and ~~strikeout~~ to show deletions from the existing regulatory text. All other portions of the article remain unchanged.]

Amend sections 2775, 2775.1, and 2775.2, title 13, chapter 15, article 2, California Code of Regulations, to read as follows:

§ 2775. Applicability.

- (a) *General Applicability.* This article applies to operators of off-road large spark-ignition (LSI) engine forklifts, sweepers/scrubbers, industrial tow tractors, or airport ground support equipment operated within the State of California in the conduct of business with:
 - (1) 25 horsepower or more (greater than 19 kilowatts for 2005 and later model year engines);~~;~~ and
 - (2) greater than 1.0 liter displacement.
- (b) *Exemptions.*
 - (1) Small Fleets as defined in subsection (d);~~;~~
 - (2) Rental or leased equipment operated in California no more than 30 aggregated calendar days per year shall be exempt from the requirements of this article;~~;~~
 - (3) Off-road military tactical vehicles or equipment exempt from regulation under the federal national security exemption, 40 CFR, subpart J, section 90.908, are exempt from the requirements of this article. Vehicles and equipment covered by the definition of military tactical vehicle that are commercially available and for which a federal certificate of conformity has been issued under 40 CFR Part 90, subpart B, shall also be exempt from the requirements of this article;~~;~~ and
 - (4) In-field equipment shall be exempt from the requirements of this article.
- (c) *Severability.* Each part of this article is severable, and in the event that any part of this chapter or article is held to be invalid, the remainder of the article shall remain in full force and effect.
- (d) *Definitions.* The definitions in Section 1900(b), Chapter 1, and Section 2431(a), Chapter 9 of Title 13 of the California Code of Regulations apply to this article. In addition, the following definitions apply to this article:

- (1) "Aggregated Operations" means all of an operator's California facilities for which equipment purchasing decisions are centrally made. Facilities that budget and make equipment purchasing decisions independent of a government or corporate headquarters are assumed to be independent and therefore are not required to be aggregated for the purpose of determining fleet size.
- (2) "Agricultural Crop Preparation Services" means packinghouses, cotton gins, nut hullers and processors, dehydrators, feed and grain mills, and other related activities that fall within the United States Census Bureau NAICS (North American Industry Classification System) definition for Industry 115114 – "Postharvest Crop Activities," as published in the North American Industry Classification System – United States, 2002. For forest operations, "Agricultural Crop Preparation Services" means milling, peeling, producing particleboard and medium density fiberboard, and producing woody landscape materials and other related activities that fall within the United States Census Bureau NAICS definition for Industries 321113 (Sawmills) and 321219 (Reconstituted Wood Product Manufacturing)," as published in the North American Industry Classification System – United States, 2007.
- (3) "Agricultural Operations" means (1) the growing or harvesting of crops from soil (including forest operations) and the raising of plants at wholesale nurseries, but not retail nurseries, or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution, or (2) agricultural crop preparation services.

For purposes of this regulation, a piece of equipment that is used by its operator for both agricultural and non-agricultural operations is considered to be a piece of equipment engaged in agricultural operations, only if over half of its annual operating hours are for agricultural operations.

- (4) "Airport Ground Support Equipment," "Ground Service Equipment," or "GSE" means any large spark-ignition engine or electric-motor powered equipment capable of and used for performing the work normally performed by an LSI engine-powered piece of equipment contained in the 24 categories of equipment included in section B.3. of Appendix 2 of the South Coast Ground Support Equipment Memorandum of Understanding, dated November 27, 2002 except that equipment that falls into the "other" category shall not be considered GSE for the purposes of this regulation. Specifically included in this definition are those categories of GSE equipment designed for on-road use, but not licensed for on-road use ("On-Road Equivalent" GSE).
- (5) "Baseline Inventory" means an inventory of equipment as defined in this ~~subsection~~division that reflects all equipment operated at the time of the inventory.
- (6) "Boneyard" means a grouping of decommissioned or retired pieces of equipment at a location geographically separated from operational fleets subject to the fleet

average requirements and intended for transfer, sale, spare parts, or scrap. These pieces of equipment are not generally operational.

- (7) "Certification Standard" means the level to which an LSI engine is certified, in grams per kilowatt-hour of hydrocarbon and oxides of nitrogen, combined, as identified in an Executive Order (EO) issued by the Executive Officer of the California Air Resources Board.
- (8) "Dehydrators" means sun drying of fruits, vegetables, tomatoes, dates, prunes, raisins and olives, or artificially drying and dehydrating fruits, vegetables, tomatoes, dates, prunes, raisins, grapes, and olives.
- (9) "Emission Control System" means any device or system employed with a new or in-use off-road LSI-engine powered piece of equipment that is intended to reduce emissions. Examples of LSI emission control systems include, but are not limited to, closed-loop fuel control systems, fuel injection systems, three-way catalysts, and combinations of the above.
- (10) "Equipment" or "Pieces of Equipment" means one or more forklifts, industrial tow tractors, sweeper/scrubbers, or pieces of airport ground support equipment as defined in this section powered by an LSI engine or electric-motor.
- (11) "Equipment Identification Number" or "EIN" means a unique identification number assigned by the Executive Officer to a piece of equipment once the piece of equipment has been reported in accordance with section 2775.2, subsection (a). The EIN is used to link all reporting and recordkeeping required under this Article.
- ~~(14)~~ (12) "Executive Officer" means the Executive Officer of the California Air Resources Board, or his or her delegate.
- ~~(12)~~ (13) "Executive Order" means a document signed by the Executive Officer that specifies the standard to which a new LSI engine is certified or the level to which an LSI retrofit emission control system is verified.
- ~~(13)~~ (14) "Facility" means any structure, appurtenance, installation, and improvement on land that operates and/or garages one or more pieces of equipment.
- ~~(14)~~ (15) "Facility Sample" means the selection of one or more individual facilities from an operator's California facilities for comparison to the operator's aggregate fleet inventory for fleet average calculation.
- ~~(15)~~ (16) "Fleet Average Emission Level" or "FAEL" means the arithmetic mean of the combined hydrocarbon plus oxides of nitrogen emissions certification standard or verification absolute emissions level for each applicable LSI engine with an emission control system and the default emission rate for each uncontrolled LSI engine comprising an operator's fleet. LSI engines installed in equipment meeting the boneyard or retired equipment definitions shall not be included in fleet average emission level compliance calculations. For the purposes of calculating

the fleet average, electric-motor powered equipment shall be considered to have combined hydrocarbon plus oxides of nitrogen emissions level of zero (0). Electric-motor powered equipment of less than 19 kilowatts shall be allowed to be included in the fleet average calculation provided that it meets the airport ground support equipment, forklift, industrial tow tractor, or sweeper/scrubber definition and performs, with similar efficiency, the same function as an LSI engine-powered piece of equipment. For the purposes of calculating the fleet average for a non-forklift fleet, each piece of On-Road Equivalent GSE shall be considered to have a combined hydrocarbon plus oxides of nitrogen emissions level as follows: 1.1 g/bhp-hr (1.5 g/kW-hr) for purposes of determining compliance with the 1/1/2009 standard; 0.8 g/bhp-hr (1.1 g/kW-hr) for purposes of determining compliance with the 1/1/2011 standard; and 0.7 g/bhp-hr (0.9 g/kW-hr) for purposes of determining compliance with the 1/1/2013 standard. For the purpose of calculating the fleet average, fleet operators shall be permitted to exclude at their discretion any electric-motor powered equipment that could otherwise be used to lower the LSI fleet's average emission level.

- (16) (17) "Forest operations" means (A) forest fire prevention activities performed by public agencies, including but not limited to, construction and maintenance of roads, fuel breaks, firebreaks, and fire hazard abatement or (B) cutting or removal or both of timber, other solid wood products, including Christmas trees, and biomass from forestlands for commercial purposes, together with all the work incidental thereto, including but not limited to, construction and maintenance of roads, fuel breaks, firebreaks, stream crossings, landings, skid trails, beds for falling trees, fire hazard abatement, and site preparation that involves disturbance of soil or burning of vegetation following forest removal activities. Forest operations include the cutting or removal of trees, tops, limbs and/or brush which is processed into lumber and other wood products, and/or for landscaping materials, or biomass for electrical power generation. Forest operations do not include conversion of forestlands to other land uses such as residential or commercial developments.
- (17) (18) "Forklift" means an electric-motor powered Class 1 or 2 rider truck or a large spark-ignition engine-powered Class 4 or 5 rider truck as defined by the Industrial Truck Association. Electric Class 3 trucks are not forklifts for the purposes of this regulation.
- (18) (19) "Industrial Tow Tractor" means an electric-motor powered or large spark-ignition engine-powered Class 6 truck as defined by the Industrial Truck Association. Industrial tow tractors are designed primarily to push or pull non-powered trucks, trailers, or other mobile loads on roadways or improved surfaces. Industrial tow tractors are commonly referred to as tow motors or tugs. Industrial tow tractors are distinct from airport ground support equipment tugs for the purposes of this regulation.
- (19) (20) "In-field equipment" means agricultural operations or forest operations equipment that is used no more than half of its annual operating hours in agricultural crop preparation services.

- (20) ~~“Label” means a permanent material that is welded, riveted or otherwise permanently attached to the engine block or other major component in such a way that it will be readily visible after installation of the engine in the equipment. If the equipment obscures the label on the engine, the equipment manufacturer must attach a supplemental label such that it is readily visible. The label will state the emission standard or verification absolute emissions level to which the engine was certified.~~
- (21) “Large Fleet” means an operator’s aggregated operations in California of 26 or more pieces of equipment.
- (22) “Leased forklift” for use in agricultural crop preparation services means a forklift under a contract or agreement for a term or period of one year or more that may include an option to purchase the forklift.
- (23) “Limited Hours of Use equipment” or “LHU equipment” means a piece of equipment that, on a year-by-year basis, was operated in California fewer hours than the prescribed threshold established for the preceding calendar year (the 12-month period running from January 1 to December 31). The threshold for the 2010 calendar year is 251 hours. The threshold for 2011 and subsequent calendar years is 200 hours. For example, an operator would only consider that a piece of equipment had met the requirements of the LHU provisions for exclusion from a fleet average emission level calculation performed in 2014 if the piece of equipment were used fewer than 200 hours between January 1, 2013 and December 31, 2013.
- (24) “LSI Retrofit Emission Control System” means an emission control system employed exclusively with an in-use LSI engine powered piece of equipment.
- (25) “Manufacturer” means the manufacturer granted new engine certification or retrofit emission control system verification.
- (26) “Medium Fleet” means an operator’s aggregated operations in California of 4 to 25 pieces of equipment.
- (27) “Memorandum of Understanding Signatories” or “MOU Signatories” means any of the airlines that entered into the South Coast Ground Support Equipment Memorandum of Understanding, dated November 27, 2002.
- (28) “Military tactical vehicles or equipment” means vehicles or pieces of equipment that meet military specifications, are owned by the U.S. Department of Defense and/or the U.S. military services or its allies, and are used in combat, combat support, combat service support, tactical or relief operations, or training for such operations.

- (29) ["Model Year" means the manufacturer's annual production period, which includes January 1 of a calendar year or, if the manufacturer has no annual production period, the calendar year.]¹
- (30) ["New Engine" means an engine's ownership has not been transferred to the ultimate consumer.]
- (31) "Non-forklift fleet" means an operator's aggregated operations in California of four (4) or more sweeper/scrubbers, industrial tow tractors, or pieces of airport ground support equipment, alone or in combination.
- (32) "Nut hullers and processors" means facilities where nuts are received, hulled, aspirated, shelled, sized, stored, packaged, and shipped. Facilities that blanch, slice, dice, roast, salt, or smoke nuts or nut meats are not included in the "nut hullers and processors" definition.
- (33) ["Off-Road Large Spark-ignition Engines" or "LSI Engines" means any engine that produces a gross horsepower of 25 horsepower or greater (greater than 19 kilowatts for 2005 and later model years) or is designed (e.g., through fueling, engine calibrations, valve timing, engine speed modifications, etc.) to produce 25 horsepower or greater (greater than 19 kilowatts for 2005 and later model years). If an engine family has models at or above 25 horsepower (greater than 19 kilowatts) and models below 25 horsepower (at or below 19 kilowatts), only the models at or above 25 horsepower (above 19 kilowatts) would be considered LSI engines. The engine's operating characteristics are significantly similar to the theoretical Otto combustion cycle with the engine's primary means of controlling power output being to limit the amount of air that is throttled into the combustion chamber of the engine. LSI engines or alternate fuel-powered LSI internal combustion engines are designed for powering, but not limited to powering, forklift trucks, sweepers, generators, and industrial equipment and other miscellaneous applications. All engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act, as amended, and as defined by regulation of the Environmental Protection Agency, are specifically excluded from this category. Specifically excluded from this category are: 1) engines operated on or in any device used exclusively upon stationary rails or tracks; 2) engines used to propel marine vessels; 3) internal combustion engines attached to a foundation at a location for at least 12 months; 4) off-road recreational vehicles and snowmobiles; and 5) stationary or transportable gas turbines for power generation.]
- (34) "Operations equipment" as used in the "Operator" definition means equipment that is operated by a person whose usual and customary business is the rental, leasing, or sale of equipment and is used more than 50 percent of the time for rental or lease, or is designated for sale.
- (35) "Operator" means a person with legal right of possession and use of a piece of equipment including a person whose usual and customary business is the rental, leasing, or sale of equipment as provided below:

A person whose usual and customary business is the rental, leasing, or sale of equipment will be deemed an operator of:

- (A) all service equipment (as defined in section 2775, subsection (d)(40)) regardless of hours of operation, and
 - (B) any operations equipment (as defined in section 2775, subsection (d)(33)(34)) they use more than 50 hours per year.
- (36) "Rental forklift" for use in agricultural crop preparation services means a forklift under a contract or agreement for a term or period of less than one year that may include an option to renew the contract or agreement.
- (37) "Repower" means a new or remanufactured engine and parts offered by the OEM or by a non-OEM rebuilder that has been demonstrated to the ARB to be functionally equivalent from a durability standpoint to the OEM engine and components being replaced.
- (38) "Retired equipment" means equipment with an operational non-resettable hour meter that has been removed from service and rendered inoperable using the following procedures:
- (A) Remove fuel and the starter battery from the piece of equipment. For propane-fueled LSI engines, the operator may simply remove the fuel canister.
 - (B) Remove the steering wheel from the piece of equipment.
 - (C) Store the retired equipment at a central location, apart from operational equipment, either within the facility or elsewhere, and employ lockout/tagout controls. At a minimum, place a lockout box on either the propane connector or the positive cable to the starter battery. Operators planning to scrap a piece of equipment need not use a lockout box, but may instead sever the positive battery cable more than six inches from the connector.
 - (D) Record the initial hour meter reading at the time of decommission and write the date of decommission and the initial meter reading in permanent ink in a readily visible location on a non-removable surface of the piece of equipment. Additionally, record the hour meter serial number, if available. Continue to record meter readings at quarterly intervals (every three months), and sign under penalty of perjury. Retain records in accordance with the LSI ~~record keeping~~ recordkeeping requirements in section 2775.2.

- (E) Develop an inventory for all retired pieces of equipment at the date of first retirement and sign, under penalty of perjury, that the equipment is retired for the purposes of the LSI Fleet Regulation.

Retired equipment may remain at the facility for up to one year. After one year, the retired equipment must either be removed from the facility or reentered into FAEL standards calculations.

- (39) "Retrofit" means the application of an emission control system to a non-new LSI engine.
- ~~(40) "Serial Number" means an engine serial number and date of engine manufacture (month and year) that are stamped on the engine block or stamped on a metal label riveted or permanently attached to the engine block. Engine manufacturers must keep records such that the engine serial number can easily be used to determine if an engine was certified for the applicable model year, and beginning January 1, 2007, the standard to which the engine was certified.~~
- (44) ~~(40)~~ "Service equipment" as used in the "Operator" definition means equipment that is operated by a person whose usual and customary business is the rental, leasing, or sale of equipment and is used more than 50 percent of the time for yard operations necessary to support the equipment rental, leasing, or sales business.
- ~~(42)~~ (41) "Small Fleet" means an operator's aggregated operations in California of 1 to 3 forklifts and/or 1 to 3 pieces of non-forklift equipment.
- ~~(43)~~ (42) "Sweeper/scrubber" means an electric-motor powered or large spark-ignition engine-powered piece of industrial floor cleaning equipment designed to brush and vacuum up small debris and litter or scrub and squeegee the floor, or both.
- (44) ~~(43)~~ "Specialty Equipment" means a piece of equipment with unique or specialized performance capabilities that allow it to perform prescribed tasks and as approved by the Executive Officer.
- ~~(45)~~ (44) ["Ultimate Purchaser" means the first person who in good faith purchases a new LSI engine or equipment using such engine for purposes other than resale.]
- ~~(46)~~ (45) "Uncontrolled LSI Engine" means pre-2001 uncertified engines and 2001-2003 certified uncontrolled LSI engines. The default emission rate for an uncontrolled LSI engine is 12.0 grams per brake horsepower-hour (16.0 grams per kilowatt-hour) of hydrocarbon plus oxides of nitrogen.
- ~~(47)~~ (46) "Verification" means "Verification," as defined in Title 13, California Code of Regulations, section 2781. ~~a determination by the Executive Officer that the LSI emission control system meets the requirements of this Procedure. This~~

determination is based on both data submitted or otherwise known to the Executive Officer and engineering judgement.

(48) (47) "Verification Level" means one of four emission reduction classifications that apply to the performance capability of retrofit emission control systems as described in Title 13, California Code of Regulations, Ssection 2782(f), Table 1, as set forth in Table 1:

Table 1. LSI Engine Retrofit System Verification Levels

<i>Classification</i>	<i>Percentage Reduction (HC+NOx)</i>	<i>Absolute Emissions (HC+NOx)</i>
LSI Level 1 ⁽¹⁾	> 25% ⁽²⁾	Not Applicable
LSI Level 2 ⁽¹⁾	> 75% ⁽³⁾	3.0 g/bhp-hr ⁽³⁾ (4.0 g/kW-hr)
LSI Level 3a ⁽¹⁾	> 85% ⁽⁴⁾	0.5, 1.0, 1.5, 2.0, 2.5 g/bhp-hr (0.7, 1.3, 2.0, 2.7, 3.4 g/kW- hr)
LSI Level 3b ⁽⁵⁾	Not Applicable	0.5, 1.0, 1.5, 2.0 g/bhp-hr (0.7, 1.3, 2.0, 2.7 g/kW- hr)

Notes:

- (1) Applicable to uncontrolled engines only.
- (2) The allowed verified emissions reduction is capped at 25% regardless of actual emission test values.
- (3) The allowed verified reduction for LSI Level 2 is capped at 75% or 3.0 g/bhp-hr (4.0 g/kW-hr) regardless of actual emission test values.
- (4) Verified in 5% increments, applicable to LSI Level 3a classifications only.
- (5) Applicable to emission-controlled engines only.

¹ Bracketed definitions are replicated for ease of use and presentation clarity from Section 1900 (b), Chapter 1, or Section 2431 (a), Chapter 9, of Title 13 of the California Code of Regulations.

NOTE: Authority cited: Sections 39001, 39002, 39003, 39500, 39600, 39601, 39602.5, 39607, 39658, 43000, 43011, 43013 and, 43018, 43101, 43102, 43104, 43150, 43151 and 43600, Health and Safety Code. Reference: Sections 39001, 39002, 39003, 39500, 39600, 39602.5, 39607, 39658, 43000.5, 43009, 43011, 43013, 43017, and 43018, 43101, 43102, 43104 and 43151, Health and Safety Code.

§ 2775.1. Standards.

- (a) Operators of forklift and/or non-forklift fleets shall first determine the size of their fleets, using the equipment definitions in § 2775. Equipment meeting the boneyard and retired equipment definitions shall not be included in fleet size determinations. ~~Then, e~~ Except as provided in ~~subsections~~ divisions (c), (d), (e), and (f), operators of medium and large forklift fleets and operators of non-forklift fleets with more than three pieces of equipment shall comply with the fleet average emission level (FAEL) standards in Table 2 by the specified compliance dates.

Table 2: Fleet Average Emission Level Standards
in grams per kilowatt-hour (brake-horsepower-hour)
of hydrocarbons plus oxides of nitrogen

Fleet Type	Initial Compliance Date		
	1/1/2009	1/1/2011	1/1/2013
Large Forklift Fleet	3.2 (2.4)	2.3 (1.7)	1.5 (1.1)
Medium Forklift Fleet	3.5 (2.6)	2.7 (2.0)	1.9 (1.4)
Non-forklift Fleet	4.0 (3.0)	3.6 (2.7)	3.4 (2.5)

- (1) Fleet operators subject to the fleet average provisions shall include in their fleet average calculations any piece of equipment that the operator has rented or leased or reasonably expects to rent or lease for a period of one year or more.
- (2) Fleet operators may exclude from the fleet average calculation uncontrolled 2003 and 2004 model year rental equipment (if the equipment is rented for a period of less than one year) until January 1, 2010.
- (3) In addition to the provisions of subsection (a)(2) above, fleet operators may exclude from the fleet average calculation rental or leased equipment if:
 - (A) the rental or lease is for a period of less than one year; ~~and~~
 - (B) the rental or lease component comprises no more than 20 percent of the operator's equipment at any time; ~~and~~
 - (C) the equipment rented or leased during the period from January 1, 2009, through December 31, 2010, is controlled to a 4.0 g/kW-hr (3.0 g/bhp-hr) standard or better and equipment rented or leased on or after January 1, 2011, is controlled to a 2.7 g/kW-hr (2.0 g/bhp-hr) standard or better.

- (4) Fleet operators shall comply with the applicable fleet average standard in Table 2 with the following exceptions:
 - (A) if through business expansion, a fleet meets the definition of a larger size category, the fleet may continue to comply with the applicable fleet standard for the initial size category until the subsequent compliance date, at which time the fleet must meet the applicable fleet standard for the new fleet size category; or
 - (B) if through retirement or other fleet size reduction mechanism the fleet would otherwise be required to comply with a less stringent fleet standard, then the less stringent fleet standard becomes effective immediately.
- (5) Beginning June 30, 2017, and until June 30, 2023, operators must maintain records for and report all equipment subject to a FAEL standard in accordance with section 2775.2, subsection (a).
- (6) Beginning June 30, 2017, and until June 30, 2023, operators must label each piece of equipment subject to a FAEL standard with its equipment identification number (EIN) in accordance with section 2775.2, subsection (b). For zero emission equipment, the operator is only required to label such equipment if the inclusion of the equipment in the operator's fleet average is necessary to comply with the applicable FAEL standard. That is, if a fleet complies with its FAEL standard without needing to account for one or more pieces of zero emission equipment, those pieces of equipment are not required to be labeled.
- (b) Operators of mixed fleets comprised of forklifts and non-forklift equipment shall determine fleet size individually for forklift fleets and non-forklift fleets; a mixed fleet with three or fewer forklifts and three or fewer non-forklift pieces of equipment shall be considered to be a small fleet.
- (c) Except as provided in ~~subsections~~divisions (d), (e), and (f), each operator of a forklift fleet used in agricultural crop preparation services shall address emissions from their owned forklifts with uncontrolled LSI engines as follows:
 - (1) by January 1, 2009, identify that portion of the 1990 and newer LSI engine powered forklift fleet for which retrofit emission control systems have been verified and control 20 percent of that portion as prescribed in subsection (3) below; and
 - (2) by January 1, 2012, control 100 percent of the 1990 and newer LSI engine powered forklift fleet for which retrofit emission control systems have been verified as prescribed in subsection (3) below; and
 - (3) To comply with subsections (c)(1) and (c)(2) of this section, operators shall retrofit or repower the LSI engine powered forklift to a Level 2 or Level 3 verification level as described in Title 13, California Code of Regulations, Section 2782 (f).

- (4) Operators of fleets used in agricultural crop preparation services may exclude from their LSI engine powered forklift fleet:
- (A) leased forklifts provided the forklifts meet a 4.0 g/kW-hr (3.0 g/bhp-hr) standard or better. Forklifts under a lease agreement that was initiated prior to May 25, 2006 may also be excluded from the 4.0 g/kW-hr standard for the life of the lease, or until January 1, 2010, whichever is earlier; and
 - (B) rental forklifts rented on or after January 1, 2009, provided the forklifts meet a 4.0 g/kW-hr standard or better. Forklifts with an uncontrolled 2003 or 2004 model year engine may be excluded from the requirements of this subpart until January 1, 2010.

(d) *Limited Hours of Use Provisions.*

- (1) Forklift and non-forklift equipment in medium and large fleets shall be exempted from the provisions of ~~subsection~~division (a) of this section provided that:
 - (A) the equipment meets the limited hours of use equipment definition as defined in section 2775(d)(23); ~~and~~
 - (B) the equipment is equipped with an operational non-resettable hours of use meter; ~~and~~
 - (C) the operator maintains hours of use records for the piece of equipment at a facility; ~~and~~
 - (D) beginning June 30, 2017, the operator maintains records and reports the equipment in accordance with section 2775.2, subsection (a); and
 - (E) beginning June 30, 2017, the operator labels the equipment with its EIN in accordance with section 2775.2, subsection (b).
- (2) Forklifts used in agricultural crop preparation services fleets shall be exempted from the provisions of ~~subsection~~division (c) of this section provided that they are used, on average over any three year period, less than 251 hours per year and meet the requirements of ~~subsections~~divisions (d)(1)(B) and (d)(1)(C).

(e) *Specialty Equipment Exemption.*

- (1) Forklift and non-forklift specialty equipment shall be exempt from the requirements of ~~subsections~~divisions (a) through (c) of this section provided that:
 - (A) the replacement cost exceeds the replacement cost of a "typical" piece of equipment from that category by 50 percent or the retrofit cost exceeds the "typical" retrofit cost of a piece of equipment from that category by 100 percent; ~~and~~

- (B) they are used, on average over any three year period, less than 251 hours per year and meet the requirements of subsections~~divisions~~ (d)(1)(B) and (d)(1)(C); ~~and~~
- (C) the Executive Officer approves the listing of the piece of equipment as specialty equipment;
- (D) beginning June 30, 2017, the operator maintains records and reports the equipment in accordance with section 2775.2, subsection (a); and
- (E) beginning June 30, 2017, the operator labels the equipment with its EIN in accordance with section 2775.2, subsection (b).

(f) *Alternate Compliance Option for Operators of Fleets used in Agricultural Crop Preparation Services.*

- (1) Operators of forklift fleets used in agricultural crop preparation services shall be exempted from the provisions of subsection~~division~~ (c) of this section provided that the forklift fleet complies with a 4.0 g/kW-hr (3.0 g/bhp-hr) fleet average emission level.

(g) *Use of Experimental Emission Control Strategies.*

- (1) An operator may use an experimental emission control strategy provided by or operated by the manufacturer in no more than ten percent of ~~his~~ the operator's total fleet for testing and evaluation purposes. ~~The operator shall keep documentation of this use in records as specified in Section 2775.2(b).~~ provided that:
 - (A) beginning June 30, 2017, the operator maintains records and reports each piece of equipment in the operator's fleet, including zero emission equipment, in accordance with the requirements set forth in section 2775.2, subsection (a); and
 - (B) beginning June 30, 2017, for each piece of equipment in the operator's fleet that uses an experimental emission control strategy, the operator labels the equipment with its EIN in accordance with the requirements set forth in section 2775.2, subsection (b).

- (h) *Severability.* If any provision of this section or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the section that can be given effect without the invalid provision or application, and to this end the provisions of this section are severable.

NOTE: Authority cited: Sections 39001, 39002, 39003, 39500, 39600, 39601, 39602.5, 39607, 39658, 43000, 43011, 43013 and, 43018, 43101, 43102, 43104, 43150, 43151 and 43600, Health and Safety Code. Reference: Sections 39001, 39002, 39003, 39500, 39600, 39602.5,

39607, 39658, 43000.5, 43009, 43011, 43013, 43017, and 43018, 43101, 43102, 43104 and 43151, Health and Safety Code.

§ 2775.2. Compliance Requirements for Fleet Operators.

- ~~(a) Fleet operators subject to the fleet average emission level requirements contained in Table 2 of section 2775.1(a) shall conduct a baseline inventory of their fleet within six months of May 12, 2007 and shall maintain records at their facilities of their baseline inventory and subsequent inventories indicating accessions and retirements until June 30, 2016.~~

(a) Reporting Requirements.

- (1) An operator required to report pursuant to subsection (a)(5), (d)(1)(D), (e)(1)(D), or (g)(1)(A) of section 2775.1 must comply with all applicable requirements set forth in section 2775.2, subsection (a).
- (2) An operator required to report pursuant to section 2775.1, subsection (a)(5) must submit to the Executive Officer:
 - (A) an Initial Report, which includes all applicable information specified in section 2775.2, subsection (a)(4), by June 30, 2017, or within 60 calendar days of first becoming subject to the fleet average emission level (FAEL) standards; and
 - (B) an attestation, between June 1 and June 30 of each year subsequent to the submittal of the Initial Report, that all reported information is true, accurate, and complete. If no changes to the fleet have occurred in the past 12-month period, the operator must confirm that there have been no changes since the previous reporting.
- (3) An operator required to report pursuant to subsection (d)(1)(D), (e)(1)(D), or (g)(1)(A) of section 2775.1 must submit to the Executive Officer, for each piece of affected equipment:
 - (A) all applicable information specified in subsection (a)(4) of this section, including hour meter readings, prior to the operation of the equipment; and
 - (B) hour meter readings and total hours of operation, as specified in subsection (a)(4)(B)15 of this section, by June 30 of each year subsequent to the year the piece of equipment was initially reported.
- (4) An operator required to report in accordance with this section must provide the following information:
 - (A) Fleet Operator Information, which includes:
 1. Fleet operator name;
 2. Corporate parent name, if applicable;

3. Company address;
4. Contact name;
5. Contact phone number; and
6. Contact e-mail address;

(B) For each piece of equipment:

1. Existing Equipment Identification Number (EIN), if applicable;
2. Equipment type;
3. Equipment model year;
4. Equipment manufacturer;
5. Equipment model;
6. Equipment serial number;
7. Equipment lift capacity, if the piece of equipment is a forklift;
8. Date equipment entered fleet;
9. Date equipment removed from operation, if applicable;
10. Final hour meter reading of equipment removed from operation, if applicable; and
11. Exemption type (Limited Hours of Use, Specialty Equipment, or Experimental Emission Control Strategy), if applicable;
12. For equipment equipped with a large spark-ignition engine:
 - a. Engine model year;
 - b. Engine manufacturer;
 - c. Engine model;
 - d. Engine serial number;
 - e. Engine displacement;
 - f. Applicable emission certification standard;

- g. United States Environmental Protection Agency family name, if available;
 - h. Horsepower or kilowatt rating; and
 - i. Fuel type;
 - 13. For equipment equipped with a retrofit device:
 - a. Verified HC+NOx reduction level;
 - b. Device manufacturer;
 - c. Device model; and
 - d. Device serial number, if available;
 - 14. For zero-emission equipment:
 - a. Power source (e.g., battery, fuel cell, etc.);
 - b. Battery or fuel capacity (e.g., amp-hour, kilograms, etc.); and
 - c. Operating voltage;
 - 15. For equipment operating under subsection (d)(1) or (e) of section 2775.1:
 - a. Hour meter reading recorded on January 1 of the previous year;
 - b. Hour meter reading recorded on December 31 of the previous year; and
 - c. Total hours of operation during the previous calendar year.
- (5) An operator required to report pursuant to subsection (a)(5), (d)(1)(D), (e)(1)(D), or (g)(1)(A) of section 2775.1 must:
- (A) submit an attestation, when information is reported to the Executive Officer pursuant to subsection (a) of this section, that all reported information is true, accurate, and complete;
 - (B) notify the Executive Officer of any changes to the fleet and provide the necessary information to fulfill the operator's reporting obligations under section 2775.2, subsection (a), within 30 calendar days of such change (Applicable changes include, but are not limited to, equipment removals

or additions, repowers, retrofit device installations or removals, and changes in exemption status); and

(C) retain, at the operator's facility, records of all applicable information specified in subsection (a) of this section for at least five (5) years after the information is reported.

~~(b) At a minimum, fleet operators subject to the fleet average emission level requirements contained in Table 2 of section 2775.1 (a) shall record and maintain on file for each piece of equipment operated at their facilities, information on the equipment type, make, model, serial number, and emission certification standard or retrofit verification level.~~

(D) Operators that maintain multiple facilities may aggregate the records at a centralized facility or headquarters. Records for all equipment at all facilities shall must be made available to the Air Resources Board within 30 calendar days upon request. Compliance staff may then select a facility sample for inspection purposes.

(6) Transfer or Sale of Equipment. An operator required to report pursuant to subsection (a)(5), (d)(1)(D), (e)(1)(D), or (g)(1)(A) of section 2775.1, who transfers the ownership of a piece of equipment subject to this article in California, must:

(A) notify the Executive Officer as required by subsection (a)(5)(B) of this section;

(B) submit to the Executive Officer the date of transfer and final hour meter reading; and

(C) convey to the transferee upon transfer, equipment records, including all information required to be reported under subsections (a)(4)(B)1. through (a)(4)(B)14. of this section, such as equipment, engine, and retrofit device information.

(7) Reporting must be submitted electronically per the guidelines approved by the Executive Officer for electronic data reporting or by mail to the following address:

California Air Resources Board
Mobile Source Control Division (Large Spark-Ignition Engine)
P.O. Box 2815
Sacramento, California 95812

(b) Labeling Requirements.

(1) An operator required to label one or more pieces of equipment pursuant to subsection (a)(6), (d)(1)(E), (e)(1)(E), or (g)(1)(B) of section 2775.1 must:

- (A) report all necessary fleet and equipment information to the Executive Officer in accordance with subsection (a) of this section (a unique EIN will be assigned to each piece of equipment once reported);
 - (B) affix at least one EIN label to each piece of affected equipment within 30 days of receiving the EIN for such equipment;
 - (C) maintain all labels affixed pursuant to section 2775.2, subsection (b), so that they remain permanently affixed to the equipment and the legibility and visibility criteria set forth in section 2775.2, subsection (b)(2) are met at all times;
 - (D) label each piece of equipment correctly with its assigned EIN; and
 - (E) maintain records of the equipment purchase date or the date the equipment enters the fleet for newly purchased or acquired equipment that has not yet been labeled pursuant to section 2775.2, subsection (b).
- (2) Label Specifications. Each label affixed pursuant to subsection (b) of this section must meet all the following specifications:
- (A) Each label must contain the assigned EIN;
 - (B) The label must be permanently affixed to the piece of equipment. The label may be applied as a decal or painted directly onto the piece of equipment;
 - (C) The EIN must be in white on a red background;
 - (D) The label must be located in clear view on the outside of the equipment approximately 5 feet above the ground, or, if the equipment is not at least 5 feet tall, as high above the ground as it may be placed on the equipment in a location where it remains visible;
 - (E) Each character of the EIN must be at least 3 inches (7.6 centimeters) in height and 1.5 inches (3.8 centimeters) in width; and
 - (F) Each character of the EIN must remain legible for the entire life of the equipment.

~~(c) — Medium and large fleets shall be required to demonstrate at any time between January 1, 2009 and December 31, 2015, based on actual inventory, and reconciled against inventory records, that they meet the applicable fleet average emission level standard in Section 2775.1(a).~~

~~(d)(c)~~ Agricultural crop preparation services fleets shall be required to demonstrate at any time on or after January 1, 2009, based on actual inventory and reconciled against inventory

records, that they have addressed their 1990 and newer uncontrolled LSI engines as prescribed in Section 2775.1, subsection (c).

(e) (d) *Compliance Extensions.* An operator may be granted an extension to a compliance deadline specified in Section 2775.1 for one of the following reasons:

(1) Compliance Extension based on No Verified LSI Retrofit Emission Control System.

(A) If the Executive Officer has not verified a LSI Retrofit Emission Control System, or if one is not commercially available for a particular engine and equipment combination, the Executive Officer may grant a two-year extension in compliance if prior to each compliance deadline specified in subsections 2775.1(a), (c), and (d) of section 2775.1, the Executive Officer finds that insufficient numbers of LSI Retrofit Emission Control Systems are projected to be available. If the Executive Officer still finds that insufficient numbers of LSI Retrofit Emission Control Systems are projected to be available near the end of the first two-year extension, the Executive Officer may grant a subsequent two-year extension in compliance. At the conclusion of the approved extension(s), the operator must include the LSI piece of equipment in their FAEL standards calculations.

(2) Compliance Extensions for GSE.

(A) Compliance Extension based on no Verified or Commercially Available Retrofit Emission Control Systems for GSE. GSE of model year 1990 or newer with an uncontrolled LSI engine for which there is no verified retrofit as of January 1, 2007, or for which such verified retrofits are not commercially available by that date, shall be excluded from the GSE fleet average emission level standards contained in section 2775.1, subsection (a) until January 1, 2011. GSE of model year 1990 or newer with an uncontrolled LSI engine for which there is still no verified retrofit as of January 1, 2009, or for which such verified retrofits are not commercially available by that date, shall be excluded from the GSE fleet average emission level standards contained in section 2775.1, subsection (a) until January 1, 2013.

(B) Other Compliance Extensions for GSE. Operators may apply to the Executive Officer for an initial compliance extension of up to two years and one or more compliance extension renewals of up to one year in circumstances other than those addressed in subsection (e)(2)(A) above. The Executive Officer shall grant such applications if the applicant has made a good faith effort to comply with the fleet average emission level standards contained in section 2775.1, subsection (a), in advance of the compliance dates contained in the same section and documents either that it meets one of the following criteria independently, or that, when

considering any combination of the criteria, the documentation justifies granting the application:

- i. due to conditions beyond the reasonable control of the applicant, sufficient numbers of tested and reliable emission-controlled GSE are not projected to be available at a commercially reasonable cost;
- ii. due to conditions beyond the reasonable control of the applicant, use of available emission-controlled GSE would result in significant operational or safety issues; or
- iii. any other criterion that reasonably relates to whether the application should be granted.

(C) Compliance extensions granted under subsections (e)(2)(A) and (e)(2)(B) shall not extend beyond January 1, 2013. After January 1, 2013, all uncontrolled GSE shall be included in calculations for determining compliance with the GSE fleet average emission level standards contained in section 2775.1, subsection (a).

(3) If an extension to the compliance deadline is granted by the Executive Officer, the operator shall be deemed to be in compliance as specified by the Executive Officer's authorization.

(f) (e) *Continuous Compliance.* An operator is required to keep his equipment in compliance with this regulation, once it is in compliance, so long as the operator is operating the equipment in California.

(f) Non-Compliance. Any operator who fails to comply with the requirements of this regulation, who fails to maintain a label so that it meets all specifications set forth in section 2775.2, subsection (b)(2), or to submit any information, report, or statement required by this regulation, or who knowingly submits any false statement or representation in any application, report, statement, or other document filed, maintained, or used for the purposes of compliance with this regulation may be subject to civil or criminal penalties under sections 39674, 39675, 42400, 42400.1, 42400.2, 42400.3, 42402.1, 42402.2, 42402.3, 42402.4, and 43016, of the Health and Safety Code or otherwise provided for by law. Such penalties shall apply on a per engine or equipment unit basis. Each day in which there is a violation shall be a separate violation.

(g) *Severability.* If any provision of this section or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the section that can be given effect without the invalid provision or application, and to this end the provisions of this section are severable.

NOTE: Authority cited: Sections 39001, 39002, 39003, 39500, 39600, 39601, 39602.5, 39607, 39658, 43000, 43011, 43013, and 43018, 43101, 43102, 43104, 43150, 43151 and 43600, Health and Safety Code. Reference: Sections 39001, 39002, 39003, 39500, 39600, 39602.5,

39607, 39658, 43000.5, 43009, 43011, 43013, 43017, and 43018, 43101, 43102, 43104 and 43151 Health and Safety Code.